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ABSTRACT

This paper presents a conceptual model for guiding research on homework. Based on elements derived from a review of 26 recent U.S. and international empirical studies of homework, the model emphasizes the need to consider many variables in order to reach an understanding of the design and conduct of homework assignments, homework completion, and the effects of the two activities on student learning and development. Specific independent variables included in the model concern student and family background, teacher background, school organization and policy, classroom organization and classwork, and core independent variables of homework assignments by teacher, homework completion by students, and homework return and follow-up. Dependent variables concern effects on student learning and development, and effects on teaching practice. Each variable is particularized in detail. The model is offered as a complete, realistic theoretical model that can be tested as a measurement model in new research. Variables, or subsets of variables, can be tested with cross-sectional or longitudinal data, in recursive or nonrecursive designs and analyses, and using qualitative or quantitative data to address new and needed questions about homework assignments, completion, and impact. Approximately 50 references are listed. (RH)

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Center for Research On Elementary & Middle Schools

Report No. 27

August, 1988

A MODEL FOR RESEARCH ON HOMEWORK BASED ON U.S. AND INTERNATIONAL STUDIES

Joyce L. Epstein and Linda Pinkow

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The Center

The mission of the Center for Research on Elementary and Middle Schools is to produce useful knowledge about how elementary and middle schools can foster growth in students' learning and development, to develop and evaluate practical methods for improving the effectiveness of elementary and middle schools based on existing and new research findings, and to develop and evaluate specific strategies to help schools implement effective research-based school and classroom practices.

The Center conducts its research in three program areas: (1) Elementary Schools; (2) Middle Schools, and (3) School Improvement.

The Elementary School Program

This program works from a strong existing research base to develop, evaluate, and disseminate effective elementary school and classroom practices; synthesizes current knowledge; and analyzes survey and descriptive data to expand the knowledge base in effective elementary education.

The Middle School Program

This program's research links current knowledge about early adolescence as a stage of human development to school organization and classroom policies and practices for effective middle schools. The major task is to establish a research base to identify specific problem areas and promising practices in middle schools that will contribute to effective policy decisions and the development of effective school and classroom practices.

School Improvement Program

This program focuses on improving the organizational performance of schools in adopting and adapting innovations and developing school capacity for change.

This report, prepared by the Elementary/Middle School Program, presents a comprehensive model for conducting research on homework based on a review of research findings from U.S. and international studies.

Abstract

This paper presents a conceptual model for guiding research on homework. The model is based on elements derived from a review of recent U.S. and international studies of homework. The model emphasizes the need to consider many variables to understand the design and conduct of homework assignments, homework completion, and the effects of two activities on student learning and development.

In most schools at all grade levels there are policies and practices about the assignment of homework. Homework is supposed to improve student learning, boost motivation, provide information to parents, increase student independence and responsibility, and prepare students for new lessons. Yet research has not been conducted that informs us well about how to accomplish the many instructional and motivational goals we set for homework. Indeed, for over three decades, research has hardly moved its attention beyond measures of *time* -- teachers' reports of the amount of time their assignments take or students' reports of the time they spend doing homework.

We have initiated a program of research on homework, its designs and effects for students at different grade levels, with different abilities, in different subject areas, and for different purposes. We began by reviewing recent U. S. and international studies. We have synthesized the research, with attention to motivation, learning, and instruction. Based on the research, we have designed a comprehensive theoretical and measurement model for improving research on homework.

Data. Data from twenty-six U.S. and international empirical studies of the effects of homework on students are used to develop a conceptual framework that defines the school, classroom, family, and individual student factors needed in new research on homework. The studies, conducted between 1981 and 1986, represent new work on this topic since the Paschal, Weinstein, and Walberg (1983) review of research on homework conducted between 1964-1980. The twenty-six journal articles, reports, and dissertations on homework were located through a search of the ERIC system; education, psychological, sociological, and dissertation abstracts; and AERA programs. We included large scale surveys as well as experimental studies that empirically measured characteristics of homework

assignments or completion, and that included statistical controls on other important variables that could influence student achievement or attitudes. There are more international studies than in the earlier review, including research conducted in European, Asian, and South American countries and Australia. Several are notable for their broader concepts and measures of homework and student outcomes in addition to achievement test scores. The formal review of these studies will be the basis of a future paper.

Results and Perspectives.

o The studies include attention to types of homework (e.g., review, practice, or enrichment) teacher's feedback, explanations, coordination with classwork, clarity, valuation of homework, and school policies about homework. These need to be analytically classified to be useful for designing research and measures. For example, homework assignments by the teacher include the amount, time expected, frequency, design, coordination with the curriculum, coordination with student ability and needs, content and types of skills, connections between homework and out-of-school activities, the parent's roles in suggesting homework assignments, the students' roles in designing homework assignments, and other factors (see Section V in the model that follows). Similarly, homework completion by students and homework return and follow-up by teachers and students include important components that can be identified, measured, and analyzed for their effects on motivation and learning (see Sections VI and VII in the model that follows).

These divisions -- assignments, completion, return and follow-up -- form the core of the model's *independent* variables for influencing teachers' practices and learning and development.

o The *dependent* variables of importance include student outcomes and changes in teaching practice. *Student behaviors* include achievement (the most common measure), but also report

card grades, classwork, self esteem, attitudes toward particular subjects, and attitudes toward school. *Teaching behaviors* include the organization of instructional time, the pace of lessons, how checking and assigning homework are incorporated in instructional time, the quality of communications with parents, and the design and redesign of homework assignments and instruction to meet students' instructional needs. Dependent variables should be theoretically linked to particular purposes or goals of homework and to the motivational forces that influence student development. The dependent measures at one point in time become the background measures in longitudinal designs. Students are influenced by the on-going "loop" of homework assignments and effects.

o Studies of homework most often focus on mathematics -- a subject in which relatively clear, easily checked homework is most frequently assigned. The next most common subject for homework assignments and for homework research is English -- a subject that all or most students are required to take each year and that is the basis for homework in reading, writing, spelling, grammar, and related activities.

o The studies raise important issues about the design of assignments of homework and effects on learning for students in elementary, middle, junior high, and high schools.

Homework is a manipulable variable for motivating and teaching students and for involving parents in their children's education. But it has been studied too long as simply an either/or, more/less variable. Most studies still consider "hours" of homework assigned by the teacher or spent by the student as the most important factor. Our review of recent literature shows that the issues are more complex.

Even "time" has greater subtleties. For example, homework is a "cost-less" resource, but it is not a "cost-free" resource. It "costs" teachers when they use planning time, class time, or personal time to prepare, explain, correct, comment on, return, and review homework assignments. Too much

homework or inappropriate homework "costs" students if it is boring, frustrating, or repetitive of skills already well mastered. It may limit time spent on other useful activities, such as the development of skills and talents that the school does not or cannot teach. If homework is just busywork, both teachers and students have wasted their time. The costs and benefits of different types of homework assignments are not well understood. Yet, if there are particularly effective practices that go beyond the notion of "the more homework the better," teachers could make better use of homework in the learning process.

This paper offers a complete, realistic theoretical model that can be tested as a measurement model in new research. The connections between student motivation, learning and achievement, and effective use of homework as an instructional strategy by teachers are incorporated in the proposed model. The variables, or selected subsets of variables, can be tested with cross-sectional or longitudinal data, in recursive or nonrecursive designs and analyses, and using qualitative or quantitative data to address new and needed questions about homework assignments, completion, and impact.

Figure 1 illustrates the segments of the model. The next section of the paper outlines the variables in each segment of the model.

Over the next year, we will test the model with several sources of data for the effects of homework on students and on teaching practice. Special attention will be given to homework in the middle grades.

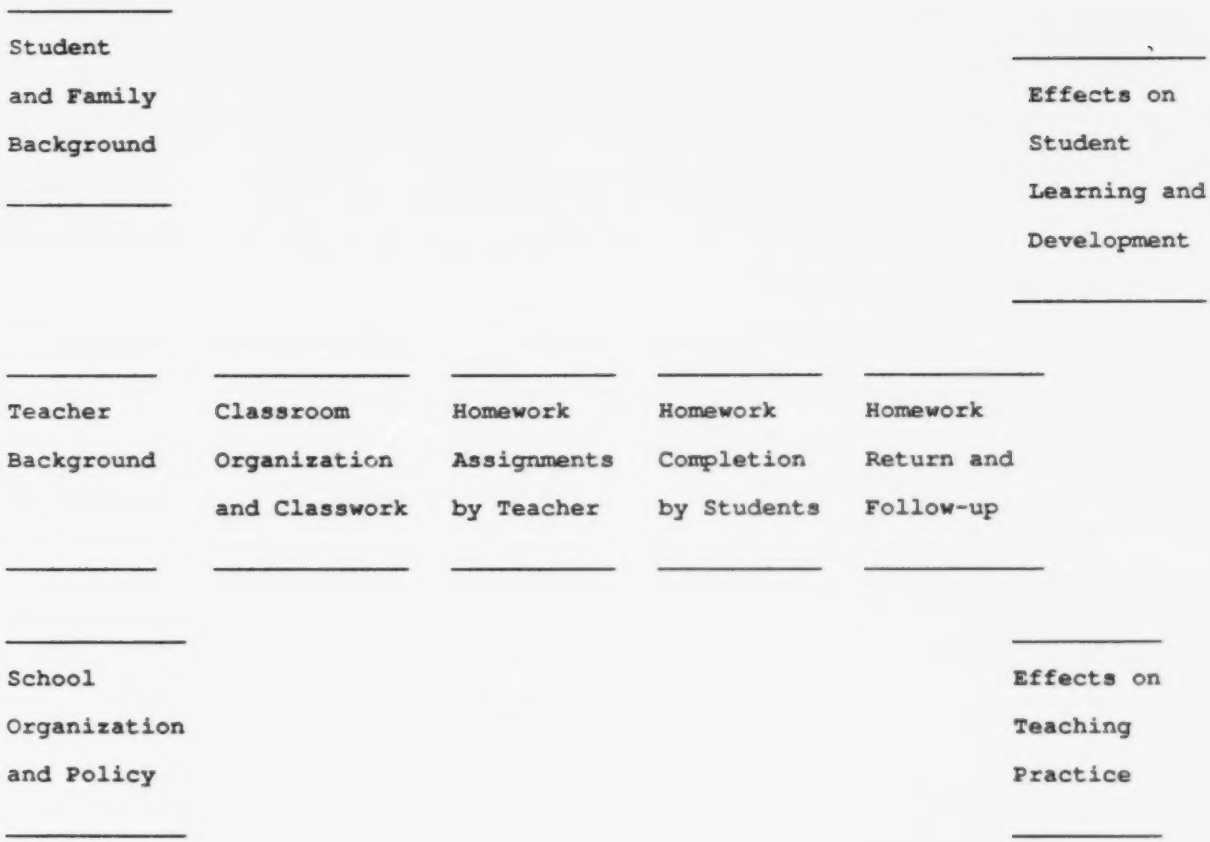
Student and Family Background
Effects on Student Learning and Development
Teacher Background
Classroom Organization and Classwork
Homework Assignments by Teacher
Homework Completion by Students
Homework Return and Follow-up
School Organization and Policy
Effects on Teaching Practice

Figure 1: A Conceptual Model for Research on Homework

I. SCHOOL ORGANIZATION AND POLICY

School grade span

School program definition

Community characteristics

School population characteristics

District homework policy

School rules/standards about homework

Supervision of teachers' instruction and homework

Articulation with prior and later schools

History of homework practices

II. STUDENT and FAMILY BACKGROUND

Sex, race

Parent education

Other SES indicators (e.g., occupation, family size, etc.)

Home conditions supporting learning

- **Place for homework**
- **Time for homework**
- **Supplies for homework**
- **Resources for learning (e.g., books, newspapers, art materials)**
- **Interruptions and competing responsibilities**
- **Parents as knowledgeable partners with the school and teachers**

Community resources/library/museums

Student prior level of achievement

Student prior attitudes about school, homework

Student school program/track/group

Student personality variables affecting homework completion

- **Self-concept of ability**
- **Locus of control**
- **Diligence, Persistence, "Struggle"**
- **Neatness**
- **Creativity**

Peer/friendship group homework patterns

Student part-time work

III. TEACHER BACKGROUND

Education

Experience

Philosopohy about homework

History of homework practices

Attitudes toward students

Practices of parent involvement

IV. CLASSROOM and CLASS WORK

Grade level

Subject

Teachers' planning time

Connections across subjects

Classroom organization of TARGET structures (e.g., task, authority, reward, grouping, evaluation and time)

Classroom behavior

Level of interruptions

Plan for homework in instruction

V. HOMEWORK ASSIGNMENTS (Teacher)

Amount

Time expected

Frequency

Design/form/novelty/level of interest

Clarity

Coordination with curriculum

Coordination with student ability

- **Group/individual ability**
- **Common/individualized assignments**

Content

- **Basic review**
- **Remediation**
- **Critical thinking**
- **Creative thinking**
- **Enrichment**
- **Completion**

Purpose

- **Practice of earlier knowledge/skills**
- **Practice of current knowledge/skills**
- **Introduction to new material, pre-learning, preparation**
- **Parent involvement/ teacher-parent communications/ student-parent communications**
- **Public relations**
- **Punishment**

Alternative assignments

After-school activities

Parents' roles in identifying issues for homework assignments

Students' roles in identifying issues for homework assignments

Teachers' attitudes about homework

VI. HOMEWORK COMPLETION (Student)

Time spent

- **On assigned homework**
- **On unassigned homework**

Completion

In-school time for homework

Location of student work

Frequency

Parent support, monitoring, assistance,

Parent pressure, conflict, unconcern

Parent communications with teachers/

signatures/notes/questions

Level of interest in subject, topic

Attitude toward teacher(s), subject(s)

Competing activities for time at home
(TV, home chores, part-time work,
sports or talents, other lessons..)

Availablility of knowledgeable peers
Telephone
Neighborhood
Coordinated family support
Friends/classmates/siblings

Coordination with diverse skills
(e.g. reading, artwork, writing,
construction, interviewing, etc.)

VII. HOMEWORK RETURN / FOLLOW UP

Timing of return

Frequency of collection, checking

Feedback, correction, evaluation
return, tally, grade, comment

Follow-up to redo work
resubmit new assignments,
extra-credit opportunities

Rewards/penalties

Role of parent after return

Consequences for student

- **class-time or other in-school time,**
- **report card grade, after-school time,**
- **added homework assignment,**
- **notification of parents...**

VIII. EFFECTS ON TEACHING PRACTICE

Organization of class time

Pace of lessons

Homework as variable of instructional time

Communications with parents, and with parents and students

Attention to community and family conditions and resources

Responsive assignments and remedial instruction for individuals

IX. EFFECTS ON STUDENT LEARNING AND DEVELOPMENT

Completed homework (Quantity)

Accurate homework (Quality)

Improved learning

- **Readiness for next lesson**
- **Classroom subject tests**
- **Report card grades**
- **Achievement test scores**

Improved attitudes and behavior

- **Attendance**
- **Self-control/discipline**
- **Positive self-concept of ability**

Motivation to learn and
to work as a student
Willingness to work to improve
Positive attitudes toward subjects,
school, learning, teachers
Continued enrollment in
subject courses
Persistence to stay in school

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